Huntington's Disease Society of America

Managing Cognitive Problems

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Presenter Disclosures

Daniel O. Claassen MD, MS

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Nashville / Vanderbilt University

- Serves the population of Middle Tennessee, parts of Kentucky, Alabama
- http://www.vanderbilthealth.com/clinicalneurosciences/44384
- Tennessee HDSA Affiliate

OVERVIEW

- *Goal:* To discuss the therapies, both pharmacological and non-pharmacological, of cognitive and behavioral symptoms in HD
- *Pharmacologic*: We will discuss the rational for differing medication options for cognitive issues. (This is a framework for medication decisions)
- *Non-pharmacologic:* Consider non-medication ways to approach these issues*
- **Input is useful*

Topics

- The Affective Domain
- Memory
- Decision Making
- Communication

- Treatment is a process. There are rarely immediate results, and sometimes you have to try more than one option

- Cognitive issues evolve over time

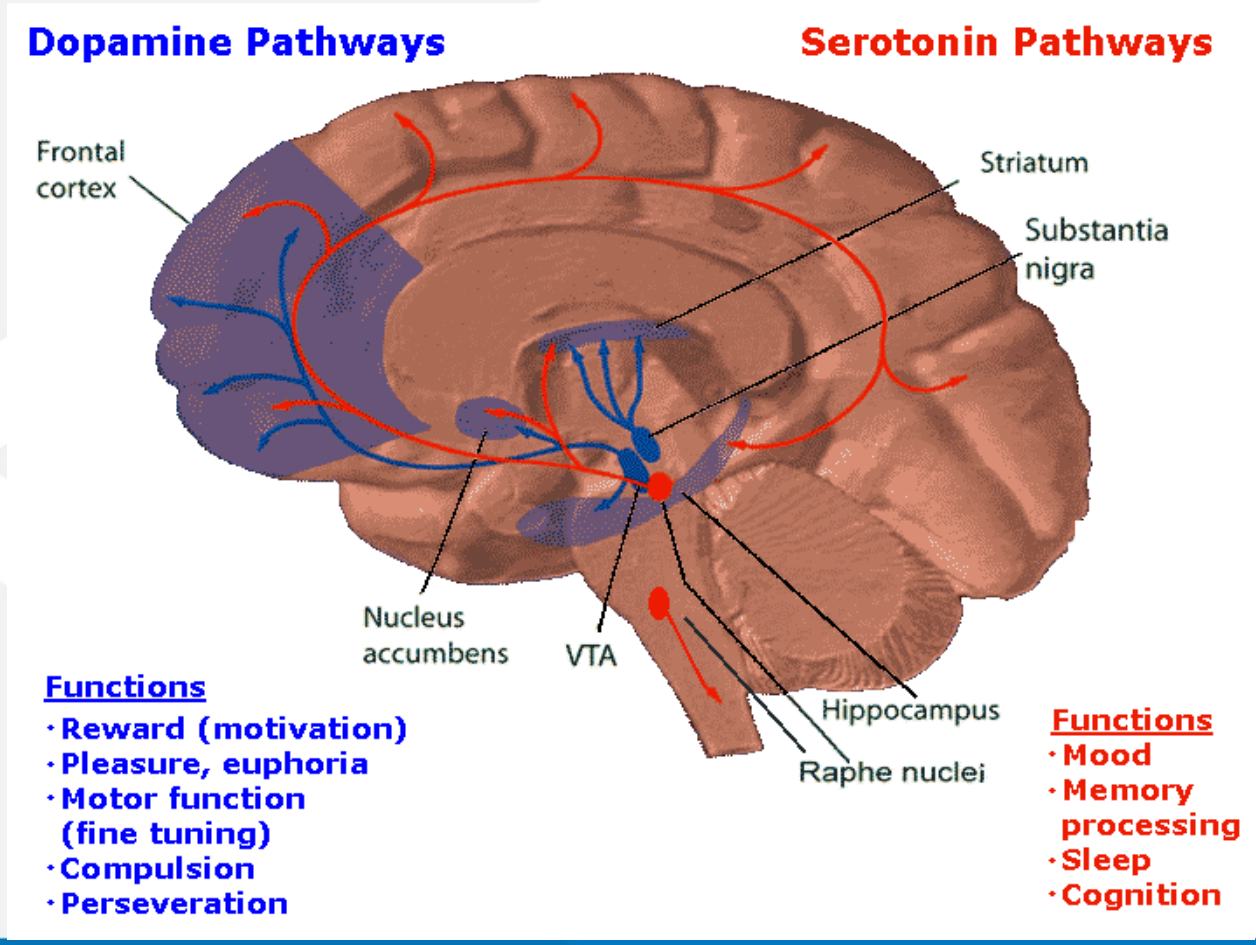
- Creativity and insight are your best friends

2 Minute Brain Tutorial

- Brain is divided into “Cortical” and “Subcortical” Structures
- Neural networks communicate
- “Basal Ganglia” and “Thalamus” integrate networks
- Brain relies on “Neurotransmitters” to enable this communication

- Serotonin (Raphe Nucleus) Mood/ Anxiety/ Depression
- Dopamine (Midbrain) Reward/ Motivation/ Risk Taking
- Norepinephrine (Locus Ceruleus) Alertness/ Impulsivity
- Acetylcholine (Nucleus Basalis of Maynert) Memory

Thanks Wikipedia….



Broad Concept of Pharmacology

- Raphe Nucleus, Locus Ceruleus and Dopamine Producing Cells probably all contribute to depression symptoms

- Serotonin
- Norepinephrine
- Dopamine

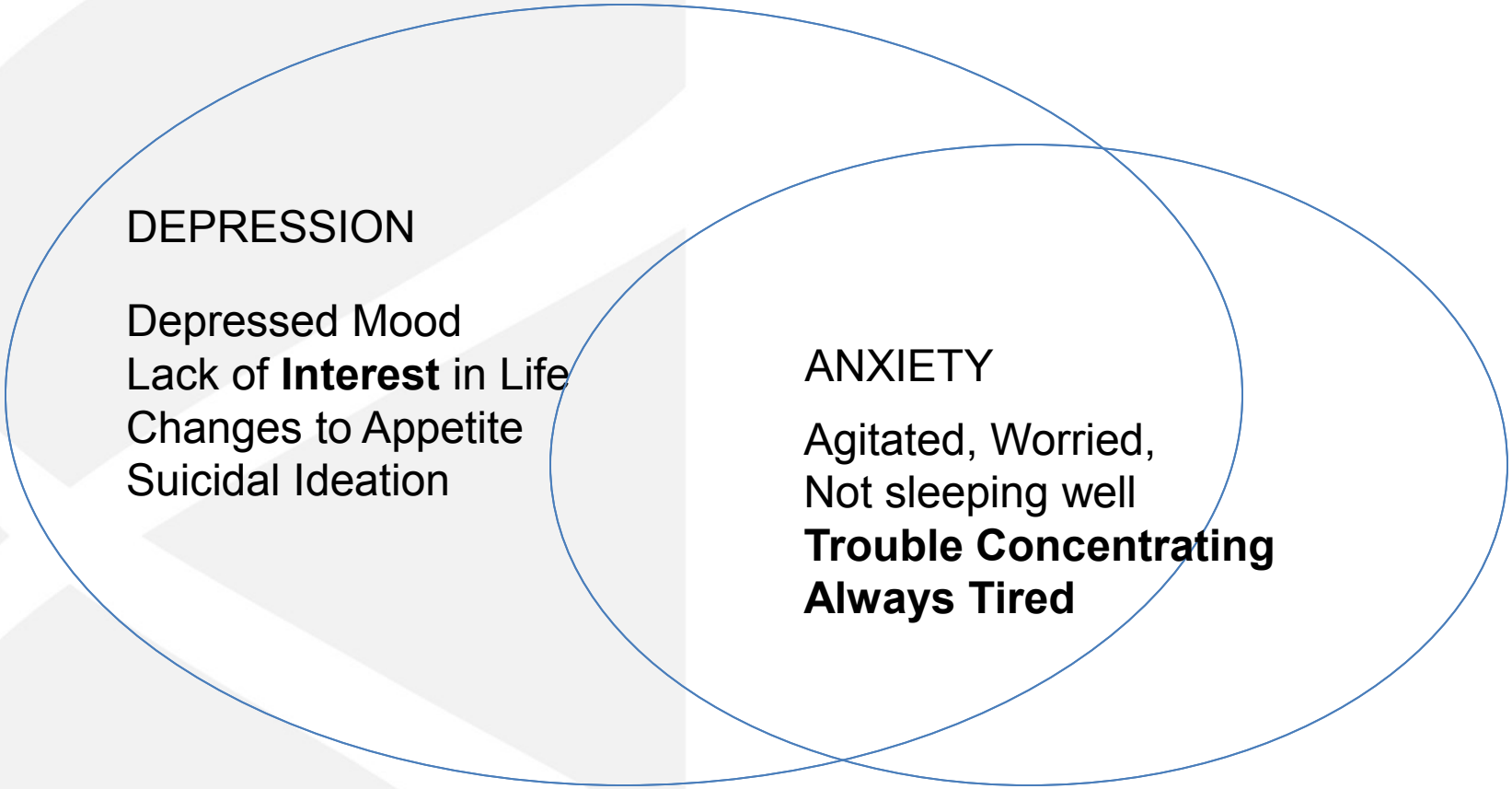
- Pharmacological Therapies seek to restore or improve these neurotransmitters

Broad Ideas for Managing Cognitive Issues

- Become a Detective
  - Where, When, What, Who, Outcome
- Developing Communication Strategies
  - Calm, Humor, Redirection, Listening
- Remember the brain!
- Develop tools—calendar, routine, lists

Affective Domain : Cognition, Behavior, and Mood

- Behavioral changes can be most distressing to patients and caregivers
- Specific Areas
  - Depression and Anxiety
  - Obsessive and Compulsive Behaviors
  - Mania and Addictive Behaviors


DEPRESSION
Depressed Mood
Lack of **Interest** in Life
Changes to Appetite
Suicidal Ideation
ANXIETY
Agitated, Worried,
Not sleeping well
Trouble Concentrating
Always Tired

‘Antidepressant’ Pharmacologic Treatments

- Serotonin Reuptake Inhibitor (SSRI)
  - Citalopram (Celexa)
  - Paroxetine (Paxil)
  - Sertraline (Zoloft)
  - Escitalopram (Lexapro)
- Serotonin and Norepinephrine
  - Venlafaxine (Effexor)
  - Mirtazipine (Remeron)
  - Duloxetine (Cymbalta)
- Norepinephrine and Dopamine
  - bupropion (Wellbutrin)

Antidepressants Work in HD–Not always for cognition

Results of the Citalopram to Enhance Cognition in Huntington Disease Trial

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Discussion

There was no evidence that short-term treatment with citalopram improved executive functions in HD. Although citalopram treatment has not been examined before in HD, there is evidence of functional improvement in Parkinson's disease after 8 weeks of citalopram.[28] Statistical power was limited in this study but

"You wont believe how Prozac has improved 'Bob's' concentration and anxiety!

Also…for Depression and Anxiety

- Routines
- Conversations topics…timing
- Sometimes benzodiazepine can help
  - Ativan
  - Diazepam
  - Clonazepam
  - N.B. It can help chorea movements that are aggravated with anxiety—like eating situations

Remember for Depression

- Talk about pharmacotherapy early on
- Counseling can help
  - Demoralization
- Suicide is a real issue in HD…take it seriously
  - Weapons? Stored medications?
- Get a help plan

Obsessive and Compulsive Behaviors

- Pharmacologic Management
  - clomipramine (a noradrenergic and serotonergic reuptake inhibitor)
  - selective serotonin reuptake inhibitors
- Non-pharmacologic
  - Cognitive Behavioral Therapy
  - Psychology
  - Routine (pick your battles)
  - For perseveration---distraction, redirection, boundaries

Mania and Addictive Behaviors

- Pharmacologic Management
  - Mood Stabilizers

    Antiepileptic Medications
    - Gabapentin (Neurontin)
    - Lamotrigine (Lamictal)
    - Carbamazepine (Tegretol)
- Non-pharmacologic
  - Set expectations
  - Boundaries
  - Psychologist/ Psychiatrist Relationship

Memory

Working Memory : “Phone number”

Procedural Memory : “How to screw in a lightbulb”

Episodic Memory: “The day we went to the beach with our 5 year old”

Semantic Memory: “What is a dog?”

Acetylcholinesterase

Effect of donepezil on motor and cognitive function in Huntington disease

Abstract—Striatal cholinergic dysfunction may be important in Huntington disease (HD). We studied whether donepezil improves chorea, cognition, and quality of life (QoL) in HD. Thirty patients were randomly assigned to treatment with donepezil or placebo. At the doses studied, donepezil did not improve chorea, cognition, or QoL. Adverse events were similar between both groups. Based on this small sample study, donepezil was not an effective treatment for HD.

NEUROLOGY 2006;67:1268–1271

Acetylcholinesterase Therapy

- Donepezil (Aricept)
- Rivastigmine (Exelon)
- Galantamine (Razadyne)

- In my clinic, if people have retrieval problems (intact learning, poor retrieval) I have found this to respond to Ach.

Non-Pharmacologic Therapy for Memory

- Exercise– A pill you should take
  - How much? Not known, but we say 30min 4 days a week
  - What type? Probably Aerobic
  - Any suggestions? Exercise bike, Group therapy
  - Improves Executive function—Working memory

- Short answers, short explanation
- Don’t multitask
- Lists
- Patience

Practical memory issues

- Medication timing: Use your smartphone
- Use sticky notes
- Check off boxes
- Change in activities (cooking, driving, finances)

Impulsivity

- Pharmacotherapy
  - Dopamine blockade can help
  - Haldol (Haloperidol)
  - Risperdal (Risperidone)
  - Latuda (Lurasidone)
  - ? Tetrabenazine (Xenazine)
- Mood stabilizer

- Non-Pharmacotherapy
  - Remember the brain!
  - Set boundaries, Predict choices, Redirection

Anger Outbursts

- Pharmacotherapy
  - Mood Stabilizer
  - Antidepressant
- Non-pharmacotherapy
  - Try avoid confrontations
  - With kids---get help/ assistance if possible
  - Support group
  - Safety

Apathy

- Medications not entirely clear to help
  - Try Norepinephrine targets
- Exercise
- Routine
- Role/ Responsibility

Get Creative

Video game play (Dance Dance Revolution) as a potential exercise therapy in Huntington's disease: a controlled clinical trial

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Resources

- www.nmha.org (Mental Health America)
- www.nami.org (National Alliance on Mental Illness)
- www.brainsciencefoundation.org (Good section on coping mechanisms)
- www.aplaceformom.com (Great caregiver website)

Thanks!

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